What is claimed is:

1. In a bi-directional communication system, a method for communicating packetized data between different networks using hierarchical layers of communication protocols, comprising the steps of:

comparing a received IP packet destination address in a first protocol layer with a predetermined IP address to determine if there is an address match; and

redirecting a payload of said received IP packet from an Internet network to a local network in response to said address match by,

substituting a second protocol layer address for a received second protocol layer address.

2. A method according to claim 1, wherein if there is no address match

said payload of said received IP packet is directed to a different destination than said local network to support a first Application operating concurrently with a different second Application being performed with said local network.

3. A method according to claim 2, wherein

said first Application is one of (a) a web surfing Application, (b) Email, (c) Internet phone/videophone, and

said second Application is one of (i) home appliance control, (ii) peripheral control and (iii) a diagnostic function.

3. A method according to claim 1, wherein

said second protocol layer address is a (MAC) address.

4. A method according to claim 1, wherein

said bi-directional communication system is a cable modem and including the step of

initiating an Application in response to receiving said redirected payload.

5. A method according to claim 1, wherein

said redirecting step redirects a payload of said received IP packet from a first network to a communication buffer to support a local application comprising one or more of, (a) home appliance control, (b) peripheral control, (c) a communication function, (d) a diagnostic function and (e) secure private internet or intranet communication functions.

6. In a bi-directional communication device using an Internet Protocol (IP), a method for processing IP data, comprising the steps of:

comparing a received IP packet IP destination address in a first protocol layer with a predetermined IP address to determine if there is an address match; and

redirecting a payload of said received IP packet using a second protocol layer (MAC) address determined in response to said address match.

7. A method according to claim 6, including the steps of

receiving said redirected payload using said second protocol layer (MAC) address, and

initiating an Application in response to receiving said redirected payload.

8. A method according to claim 6, wherein

said predetermined IP address is within a class of one or more addresses designated for private and non-public Internet usage.

9. A method according to claim 6, wherein in said redirecting step

said redirecting step comprises substituting said second protocol layer (MAC) address for a received second protocol layer (MAC) address.

10. A method according to claim 6, wherein

said redirecting step redirects a payload of said received IP packet from a first network to a different second network on a packet by packet basis.

11. A method according to claim 10, wherein

said payload of said received IP packet is redirected from a first public Internet network to a second local network comprising one of (a) an Ethernet network, (b) a Universal Serial Bus (USB) network and (c) a Home Phoneline Networking Alliance (HPNA) network.

12. A method according to claim 6, wherein

said redirecting step redirects a payload of said received IP packet from a first network to a communication buffer within said bi-directional communication device.

13. A method according to claim 12, wherein

said redirecting step redirects a payload of said received IP packet from a first network to a communication buffer within said bi-directional communication device to support a local application comprising one or more of, (a) home appliance control, (b) peripheral control, (c) a communication function, (d) a diagnostic function and (e) secure private internet or intranet communication functions.

14. A method according to claim 12, wherein

for individual received IP packets said redirecting step redirects payloads of said received IP packets from a first network to a communication buffer within said bi-directional communication device by substituting said second protocol layer (MAC) address for a received second protocol layer (MAC) address.

15. A method according to claim 12, wherein

said bi-directional communication device is a cable modem.

16. A method according to claim 6, wherein

said second protocol layer (MAC) address is determined from a database mapping said received IP packet destination address to said second protocol layer (MAC) address.

17. A method according to claim 6, wherein

said second protocol (MAC) layer is a different hierarchical communication layer than said IP layer.

18. In a bi-directional communication device using an Internet Protocol (IP), a method for initiating an Application, comprising the steps of:

comparing a received IP packet destination address with a predetermined IP address to determine if there is an address match;

conveying payload data of said received IP packet to a first destination in the absence of said address match; and

conveying said payload data of said received IP packet to a second destination and initiating an Application, in response to said address match.

19. A method according to claim 18, wherein

said payload data of said received IP packet is conveyed to a communication buffer within said bi-directional communication device to support said Application.

20. A method according to claim 18 wherein

said Application comprises one or more of, (a) home appliance control, (b) peripheral control, (c) a communication function, (d) a diagnostic function and (e) secure private internet or intranet communication functions.

21. In a bi-directional communication system, a method for communicating packetized data between different networks using hierarchical layers of communication protocols, comprising the steps of:

intercepting a domain name resolution request if a domain name matches a predetermined entry in a domain name database;

translating said intercepted domain name to a predetermined IP address; and

redirecting a payload of a received IP packet destined for said predetermined IP address.

22. A method according to claim 21 wherein

said redirecting step includes the step of

substituting a different MAC layer address for a received MAC layer address.

23. A method according to claim 21 including the step of communicating said predetermined IP address to a requesting client.